

Application Serial No. 09/869,082
Amendment dated June 24, 2004
Reply to final Office action of January 8, 2004

REMARKS

Claims 20 through 26 and 43 are pending in this application. Withdrawn claims 27 through 36 are cancelled without prejudice or disclaimer. New claim 43 is added herein. Support for new claim 43 may be found in claim 20 as filed originally and at page 7, line 2 of the WO/00/38838 publication. Further reconsideration of this application in view of the foregoing amendments and the following remarks is respectfully requested.

Response to Arguments:

Consideration of the Applicant's arguments is again appreciated. The Advisory action asserts at page 2, second full paragraph that "the passages which Applicant has referred do not teach a specific definition as to what is encompassed by the recitation of 'known'."

The Applicant has attached as Appendix A three dictionary definitions of the word "known." It is submitted that any of the three attached definitions of the word "known", "proved or generally recognized: the only known case", "to perceive or apprehend clearly and certainly", or "apprehended with certainty", teach a specific definition as to what is encompassed by the recitation of "known". If there is an alternative definition of the word "known" that conflicts with those attached, the Applicant respectfully requests that it accompany the next Office action.

The Advisory action asserts further at page 2, second full paragraph that "It is not clear as to whether "known" means that the skilled artisan "knows" the volume as soon as the reagent is placed into the microscope slide, right before an assay occurs on the slide, or after an assay occurs on the slide, etc."

It is submitted that it is abundantly clear that the word "known" is not the same as the word "knows". The word "known", which is recited in claim 20, is an adjective modifying the word "volume". The word "knows", on the other hand, is a verb, i.e., a completely different word, and is recited nowhere in the claims. It is submitted that the meaning of the word "knows" is of no consequence, since claim 20 recites a "known volume", not a volume a skilled artisan "knows" as soon as the reagent is placed into the microscope slide, right before an assay occurs on the slide, or after an assay occurs on the slide, etc.

The Advisory action asserts further at page 2, second full paragraph that "Furthermore, there is no set definition or parameter as far as to what constitutes how exact or precise the volume must be "known".

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The Applicant has attached three dictionary definitions of the adjective "known", as discussed above. It is therefore submitted that there is a set definition as far as to what constitutes how exact or precise the volume must be "known", contrary to the assertion in the Advisory action.

The Advisory action asserts further at page 2, second full paragraph that "For example, when one deposits "about" one drop onto a slide, they "know" there is "about" one drop on the slide. Even if the skilled artisan uses a slightly larger volume than the volume between the concave surface of the cover, they "know" they have placed a larger volume onto the slide, and moreover, they "know" that a small amount may spill out."

Here again, the Advisory action is ignoring the adjective "known" recited in claim 20 in favor of the verb "know," recited nowhere. This is submitted to be incorrect. Claim 20 recites a "known volume", not a larger volume a skilled artisan would "know" they have placed onto the slide, and moreover, they "know" that a small amount may spill out.

The Advisory action asserts further that "First, the claim recites only that a "known" volume is enclosed, and not "how much" volume is "known".

Actually, neither does Atwood. Claim 20 is thus submitted to be allowable over Atwood.

The Advisory action asserts further at page 2, third full paragraph that "Simple awareness of the presence of a drop of reagent does amount to knowledge of the volume of that drop when placed within a coverslip. For example, when placing about one drop on the slide of Atwood, which is then enclosed by a concave coverslip, the skilled artisan would "know" that the volume cannot exceed a certain volume by virtue of the coverslip dimensions. Furthermore, as previously cited in the last office action, Atwood cites several passages indicating a "known" volume."

Here again, the Advisory action is ignoring the adjective "known" recited in claim 20 in favor of the verb "know," recited nowhere. This is submitted to be incorrect. Whether the skilled artisan would "know" that the volume cannot exceed a certain volume by virtue of the coverslip dimensions, even if it were true, is submitted to be irrelevant. Claim 20 recites a "known volume", not a volume a skilled artisan would "know" cannot exceed a certain volume by virtue of the coverslip dimensions.

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The Advisory action asserts further at page 2, fifth full paragraph that "Applicant argues by virtue of Atwood's compliant cover, the volume will not be "known". This is not persuasive since, for example, there is not set definition of how precise one must know what the volume is."

The Applicant has attached three dictionary definitions of the adjective "known", as discussed above. It is therefore submitted that there is a set definition of how precise one must know what the volume is, contrary to the assertion in the Advisory action.

The Advisory action asserts further at page 2, fifth full paragraph that "Even assuming the concavity of the cover changes, these changes are "known" by skilled artisans given the teachings of Atwood, and therefore, the volume will be known."

This is submitted to be incorrect. The Advisory action is attributing an unwarranted clairvoyance to the practitioner in Atwood. The compliant cover will assume the volume of the fluid underneath. Since the cover member of Atwood is compliant, the volume of reagent trapped by the cover member will not be *known*, whether or not Atwood describes the concavity as being chosen to define the volume of reagent or not. In other words, the concavity is doing the defining, and the concavity is variable, since the cover member is compliant, so Atwood has no real idea what that volume will end up being. The volume enclosed by a compliant cover whose volume depends on the volume of liquid itself is circular, and will never be known precisely without knowing the volume of liquid itself, first. This is to be contrasted with claim 20, which recites a "known volume".

Finally, the Advisory action asserts at page 2, sixth full paragraph that "Furthermore, even assuming some reagent will spill out, the skilled artisan "knows' that some will spill out, and the volume enclosed within the coverslip will still be "known".

Here again, the Advisory action is ignoring the adjective "known" recited in claim 20 in favor of the verb "knows," recited nowhere. This is submitted to be incorrect. Whether the skilled artisan "knows" that some will spill out, and the volume enclosed within the coverslip will still be "known", even if it were true, is submitted to be irrelevant. Claim 20 recites a "known volume". This is to be contrasted with Atwood in which about one drop of reagent 13, rather than a known volume as recited in claim 20, is sealed into the volume between the cover member 16 and the slide 14 by a compliant seal member or gasket around its perimeter. Atwood shows a compliant seal member or gasket around a perimeter cover member 16 that

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expands and contracts to contain variable volumes. Since the cover in Atwood is compliant, the volume enclosed will not be known, contrary to the assertion in the Advisory action.

Claim Rejections - 35 U.S.C. § 102:

Claims 20, 22, 23, 25, and 27 were rejected under 35 U.S.C. § 102(b) as anticipated by Atwood et al., US 5,364,790. The rejection is traversed.

Claim 20 recites, in pertinent part:

"a portion of said coverslip is concave thereby enclosing a known volume when placed onto a microscope slide."

Atwood neither teaches, discloses, nor suggests a concave coverslip enclosing a *known* volume when placed onto a microscope slide. In Atwood, rather, a thin, generally compliant cover member 16 is placed over sample 12, as described at column 6, lines 15 and 16, column 7, lines 38 and 39, and as shown in Fig. 1. Thus, cover member 16 deforms to accommodate whatever volume of reagent happens to have been stuffed underneath, rather than enclosing a known volume as recited in claim 20.

Furthermore, in Atwood, *about* one drop of reagent 13, rather than a known volume as recited in claim 20, is sealed into the volume between the cover member 16 and the slide 14 by a compliant seal member or gasket around its perimeter, as described at column 7, lines 47 through 49. Thus, compliant cover member 16 stretches to accommodate a variable volume of reagent rather than enclosing a known volume as recited in claim 20.

Furthermore, Atwood notes that typically, for a circular cover about 12 mm in diameter, *about* 10 microliters will be contained between the cover and the slide, as described at column 8, lines 2 and 3, rather than a known volume as recited in claim 20.

Furthermore, in Atwood, the volume of reagent is chosen to be slightly larger than the volume between the concave surface of the cover 16 and a plane touching its rim 19 (the slide surface), as described at column 11, lines 59 through 62, rather than a known volume as recited in claim 20. A droplet 13 reaches and passes over the edge of rim 19 just before slide surface makes contact with the rim 19, as described at column 11, lines 63 through 65, expelling all, or nearly all the air from under cover 16.

Thus the precise volume of air will not be known, so neither will the volume of reagent left after the air is expelled, in contrast to claim 20 in which a known volume is enclosed by the

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coverslip. It is acceptable for a small excess volume of the reagent to spill out past the rim 19 of the cover 16, as described at column 11, lines 67 and 68. The amount of excess volume that is spilled is unknown, so there is no way to know how much reagent is left underneath the coverslip, in contrast to claim 20 in which a known volume is enclosed by the coverslip.

Finally, in Atwood, the cover itself is compliant so that it can expand to accommodate the fixed reagent volume without a large increase in pressure, as described at column 12, lines 24 through 26. Thus, the cover slip deforms to accommodate whatever volume of reagent happens to have been left underneath, rather than enclosing a known volume as recited in claim 20. Claim 20 is submitted to be allowable. Withdrawal of the rejection of claim 20 is earnestly solicited.

Claims 22, 23, 25, and 27 depend from claim 20 and add further distinguishing elements. Claims 22, 23, 25, and 27 are thus also submitted to be allowable. Withdrawal of the rejection of claims 22, 23, 25, and 27 is also earnestly solicited.

Claim Rejections - 35 U.S.C. § 103:

Claims 21 and 26 have been rejected under 35 U.S.C. § 103 as being unpatentable over Atwood in view of the Pan et al. WO 97/07241. The rejection is traversed. Reconsideration is earnestly solicited.

Claims 21 and 26 depend from claim 20 and add further distinguishing elements. Atwood neither teaches, discloses, nor suggests a concave coverslip enclosing a known volume when placed onto a microscope slide, as discussed above with respect to claim 20. Pan does not, either. Claims 21 and 26 are thus also submitted to be allowable. Withdrawal of the rejection of claims 21 and 26 is also earnestly solicited.

Claim 24 has been rejected under 35 U.S.C. § 103 as being unpatentable over Atwood in view of the Kuan et al. US 6,181,811. The rejection is traversed. Reconsideration is earnestly solicited.

Claim 24 depends from claim 20 and add further distinguishing elements. Atwood neither teaches, discloses, nor suggests a concave coverslip enclosing a known volume when placed onto a microscope slide, as discussed above with respect to claim 20. Kuan does not, either. Claim 24 is thus also submitted to be allowable. Withdrawal of the rejection of claim 24 is also earnestly solicited.

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New claim 43:

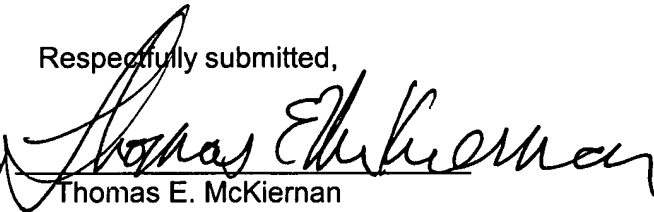
None of the cited references teaches, discloses, or suggests a concave coverslip enclosing a *constant* volume when placed onto a microscope slide, as recited in claim 43. Claim 43 is thus also submitted to be allowable.

Conclusion:

Accordingly, in view of the reasons given above, it is submitted that all claims 20 through 26 and 43 are allowable over the cited references. Allowance of all claims 20 through 26 and 43 and of this entire application are therefore respectfully requested.

Respectfully submitted,

By



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Attachment: three dictionary definitions of the word "known".

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Appendix A

I. known

v.

Past participle of know.

adj.

Proved or generally recognized: the only known case; a known authority.

Source: The American Heritage® Dictionary of the English Language, Fourth Edition
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II. known

Know \Knowl, v. t. [imp. Knew; p. p. Known; p. pr. & vb. n. Knowing.] [OE. knowen, knawen, AS. cn["a]wan; akin to OHG. chn["a]an (in comp.), Icel. kn["a] to be able, Russ. znate to know, L. gnoscere, noscere, Gr. ?, Skr. jn?; fr. the root of E. can, v. l., ken. (?). See Ken, Can to be able, and cf. Acquaint, Cognition, Gnome, Ignore, Noble, Note.]

1. To perceive or apprehend clearly and certainly; to understand; to have full information of; as, to know one's duty.

2. To be convinced of the truth of; to be fully assured of; as, to know things from information.

Source: Webster's Revised Unabridged Dictionary, © 1996, 1998 MICRA, Inc.

III. known

adj : apprehended with certainty; "a known quantity"; "the limits of the known world"; "a musician known throughout the world"; "a known criminal" [ant: unknown]

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